Volunteer Lake Assessment Program Individual Lake Reports

PLEASANT POND, FRANCESTOWN, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,052	**Max. Depth (m):**	6.4	**Flushing Rate (yr^{1})**	0.9
Surface Area (Ac.):	187	**Mean Depth (m):**	3.2	**P Retention Coef:**	0.76
Shore Length (m):	4,500	**Volume (m^3):**	2,394,000	**Elevation (ft):**	817

TROPHIC CLASSIFICATION

Year	Trophic class
1989	OLIGOTROPHIC
2004	MESOTROPHIC

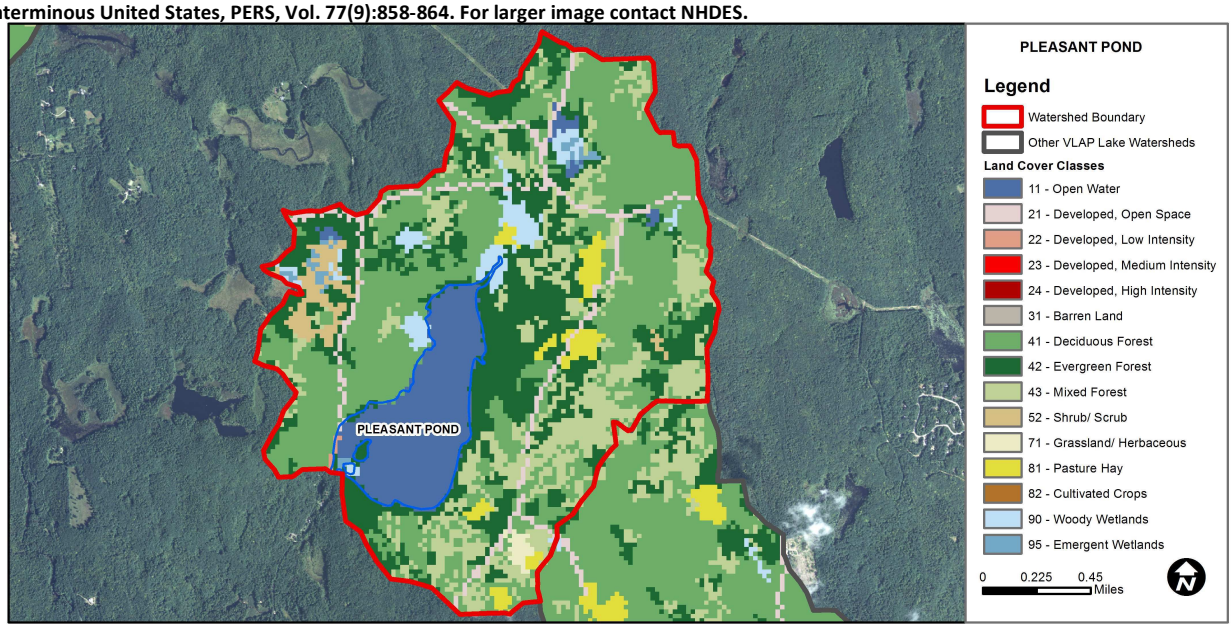
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Cautionary	<5 samples and median is > threshold. More data needed.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	10.9	Barren Land	0	Grassland/Herbaceous	0.43
Developed-Open Space	3.77	Deciduous Forest	36.19	Pasture Hay	2.22
Developed-Low Intensity	0.11	Evergreen Forest	24.45	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	16.42	Woody Wetlands	3.01
Developed-High Intensity	0	Shrub-Scrub	1.85	Emergent Wetlands	0.68

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
PLEASANT POND, FRANCESTOWN, NH
2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphic)*

- **CHLOROPHYLL-A:** Chlorophyll levels were low throughout the summer and were less than the NH lake median. Historical trend analysis indicates chlorophyll levels tend to fluctuate slightly from year to year.
- **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride were low and well below NH lake median values.
- **TOTAL PHOSPHORUS:** Deep spot phosphorus levels were low and below the NH lake median. Historical trend analysis indicates a relatively stable epilimnetic (upper water layer) phosphorus level since monitoring began. Outlet phosphorus was elevated in August and laboratory notes indicate algae in the sample which could have resulted in the increased phosphorus.
- **TRANSPARENCY:** Transparency was high throughout the summer and greater than the NH lake median. Historical trend analysis indicates a relatively stable transparency since monitoring began.
- **TURBIDITY:** Deep spot and North Inlet turbidity were low. Outlet turbidity was slightly elevated in August and laboratory notes indicate algae in the sample.
- **PH:** pH levels were lower in the hypolimnion (lower water layer) and historically have been lower than desirable.
- **RECOMMENDED ACTIONS:** Water quality was good in 2012; however watershed residents should continually be educated on ways to reduce their impact on the pond. DES' "NH Homeowner's Guide to Stormwater Management" is a great tool for homeowner's to learn how to reduce stormwater runoff from their properties.

Table 1. 2012 Average Water Quality Data for PLEASANT POND

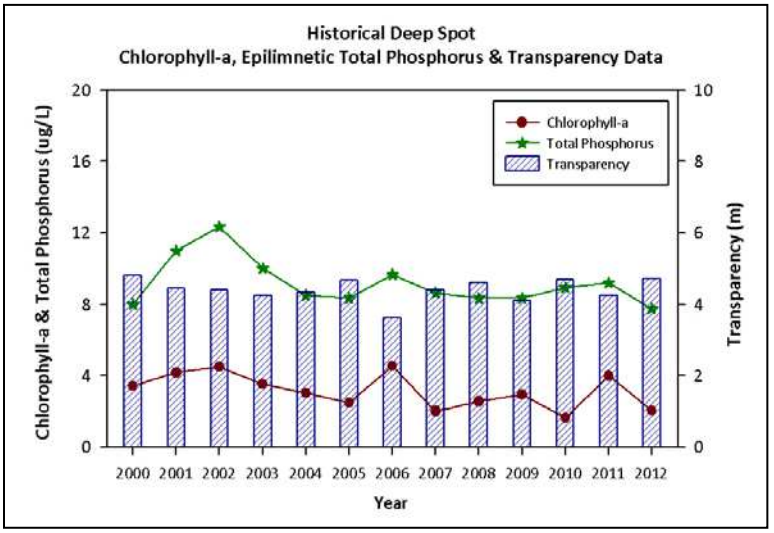
Station Name	Alk.	Chlor-a	Chloride	Cond.	Total P	Trans.		Turb.	pH
	mg/l	ug/l	mg/l	uS/cm	ug/l	m		ntu	
						NVS	VS		
Dam Outlet				29.8	25			1.81	6.24
Deep Epilimnion	3.45	2.04	3	28.3	8	4.73	4.95	0.77	6.62
Deep Hypolimnion				29.3	10			0.73	6.4
North Inlet 1				28.9	10			0.52	6.54

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	Variable	Data fluctuate annually, but are not significantly increasing or decreasing.
Transparency	Stable	Data not significantly increasing or decreasing.
Phosphorus (epilimnion)	Stable	Data not significantly increasing or decreasing.



This report was generated by the NH DES Volunteer Lake Assessment Program (VLAP). For more information contact:
Sara Steiner
PO Box 95
Concord, NH 03302-0095
(603) 271-2658
sara.steiner@des.nh.gov